

Caltrans Greening the Fleet

Fuel Strategies

PuriNOx – Emulsified Diesel
FTD – Fischer-Tropsch Diesel
LPG/Gasoline
Dedicated LPG
CNG/Gasoline
Dedicated CNG

PuriNOx

- May 2001 26 units running on PuriNOx
- Currently have 18 units on PuriNOx
- 6 units converted to after treatment devices
- 2 units (street sweepers) removed from program due to unacceptable power loss
- To date Caltrans has used approximately 39,000 gallons of PuriNOx fuel

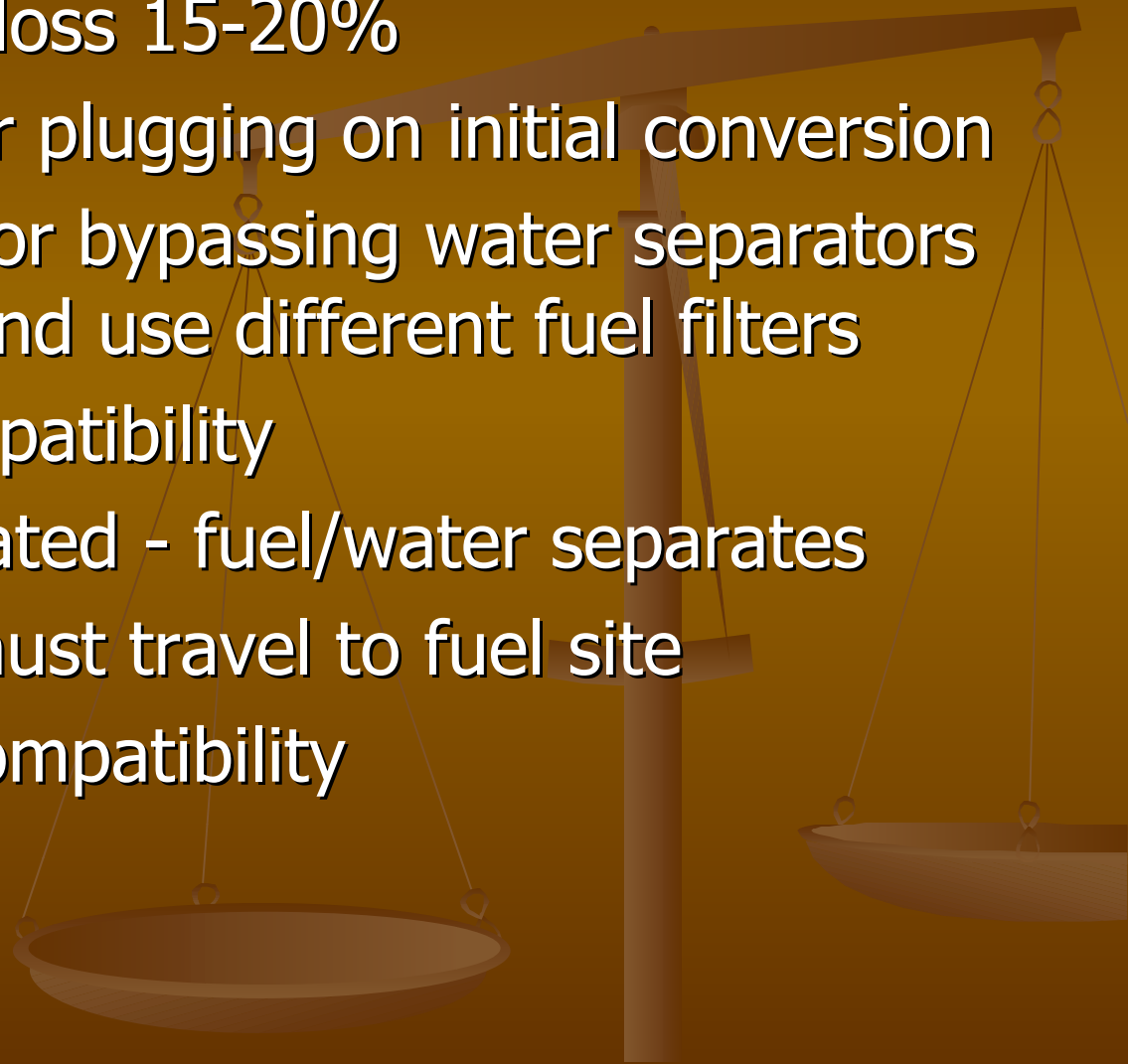
Pros to using PuriNOx



- Verified emission benefits 62.9% PM and 14% NOx
- Does not require engine modifications
- Not engine specific

Cons to using PuriNOx

- Significant power loss 15-20%
- Frequent fuel filter plugging on initial conversion
- required removal or bypassing water separators from equipment and use different fuel filters
- Cold weather compatibility
- Fuel must be agitated - fuel/water separates
- Infrastructure – must travel to fuel site
- After treatment compatibility

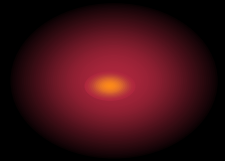


Fichser-Tropsch FTD

- Caltrans used approximately 7,500 of FTD between April 12 and May 11, 2002
- 69 vehicles comprised of 46 maintenance classes ranging from $\frac{3}{4}$ ton pick-ups to class 8 tractors and construction equipment used the fuel during that period.

Pros to using FTD

- No engine modifications required
- No noticeable power loss
- Can be used at existing bulk sites
- Potential for stand alone emission benefits 30% PM and 5% NOx
- Appears to be compatible with after treatment devices.



Cons to using FTD

- No verified emission benefits
- Cold weather compatibility – gels 34 deg
- Lack of availability

